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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/518,328	03/03/2000	John J Burns	33012/284/101	6224
27516	7590	11/29/2004	EXAMINER	
UNISYS CORPORATION			CRAIG, DWIN M	
MS 4773			ART UNIT	
PO BOX 64942			PAPER NUMBER	
ST. PAUL, MN 55164-0942			2123	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/518,328

Applicant(s)

BURNS, JOHN J

Examiner

Dwin M Craig

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 9-12 and 15-24 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 8, 13, 14 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

1. Claims 1-20 have been presented for reconsideration in view of Applicant's amended specification and arguments. Claims 21-25 have been presented for Examination.

Response to Arguments

2. Applicants arguments filed on 4-30-2004 have been fully considered. Examiners response is as follows:

2.1 Regarding the Applicant's response to the objection to the drawings.

Applicant argued:

The Examiner has objected to the drawings. Specifically, the Examiner has found that Figs. 1-3 contain only prior art under MPEP 608.02(g). Applicants disagree with the Examiner's findings and have previously provided their reasoning in this regard. Nevertheless the Examiner has continued his objection. Therefore, in furthering the prosecution of this application and under protest, Applicants have herewith provided the amended drawings as required by the Examiner.

The Examiner thanks the Applicant for amending the drawings and withdraws the earlier objections.

2.2 Regarding the amendments to the specification.

Applicant argued:

The Examiner has further objected to various amendments made to the specification. Applicants disagree with the Examiner's findings in support of this objection. For example, Applicants do not understand how the deletion of the words 'typical legacy' from page line and the deletion of the word 'legacy' from page 7, line could possibly constitute introduction of new matter as defined by 35 U.S.C. 132. Nevertheless, to further advance the prosecution of this application, Applicants have here with restored the original material in accordance with the Examiner's objection.

The Examiner thanks the Applicant for the amendments to the specification and withdraws the earlier objections.

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2.3 Regarding the Applicant's response to the 35 U.S.C. 103(a) rejections of claims 1, 2, 6, 7, 11 and 16.

Applicant argued (*from page 10 of the 4/30/2004 response*).

In short, Hoang emulates hardware with software, whereas Mitchell emulates hardware with hardware and only controls the emulation with software. Thus, the rejection is respectfully traversed, because the alleged combination is clearly not motivated.

The Examiner has found the Applicant's arguments to be persuasive and withdraws the 35 U.S.C. 103(a) rejections of Claims 1, 2, 6, 7, 11 and 16.

2.4 Regarding the Applicant's response to the 35 U.S.C. 103(a) rejections of claim 16.

Applicant argued: (*from page 11 of the 4/30/2004 response*).

Though the scope of claim 6 is different from the scope of either claim 1 or claim 11, this lack of examination is particularly noticeable with regard to claim 16, which is an apparatus claim having "'means-plus-function'" limitations. The Examiner is required to examine claim in accordance with MPEP 2181, et seq. It is apparent that this has not been done. The rejection is respectfully traversed as improper in accordance with controlling law.

The Examiner thanks the Applicant for invoking the 112 6th paragraph means-plus-function language in the claim, wherein structural support is now drawn from the specification to support the claim, *however*, it is unclear from the Applicant's arguments and the current claim language exactly *what function* the "means for" language is invoking or where in the specification the Applicant is drawing structural support.

2.5 In view of the updated search and Applicant's arguments, the Examiner withdraws the earlier 35 U.S.C. 103(a) rejections of **Claims 1-20**. An updated search has revealed new art.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 16-20 are rejected under 35 U.S.C. 112 2nd paragraph.

3.1 Regarding **claim 16**, the word "means" is preceded by the word(s) "comprising" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

3.2 It is unclear to the examiner exactly what *type* of means are being claimed in independent **Claim 16**, *specifically, the means having a first software architecture*, it is unclear to the Examiner exactly which emulation means the claim language is referring to, and it is unclear to the Examiner exactly where in the specification the structural support for the *emulation means is located*. Further, where the Applicant claims, *means responsively coupled to said executing means for*, again it is unclear to the Examiner exactly where the structural support for the *responsively coupled means* is located. Clarification and amendment are required.

3.3 Dependent **Claims 17-20** inherit the flaws of Independent **Claim 16**.

3.4 Dependent **Claims 22 and 24** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear to the Examiner exactly what the "meets and bounds" of the claimed limitation "*short sequence(s) of instructions*" is supposed to be. Amendment and Clarification are required.

Claim Interpretation

4. The Applicants claim language has been given the broadest reasonable interpretation by the Examiner. For purposes of Examination the Examiner has interpreted the “*short sequence(s) of instructions*” to mean a sequence of instructions that is less than 500 instructions in length.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Independent **Claims 1, 6, 11 and 21** and Dependent **Claims 2, 3, 7, 9, 10, 12, 15, 22, 23, and 24** are rejected under 35 U.S.C. 102(b) as being anticipated by **Goettelmann et al. U.S. Patent 5,313,614**.

5.1 As regards independent **Claims 1, 6 and 11** the *Goettelmann et al.* reference teaches,

In a data processing system having a first processor with a first architecture

(Figure 1), the improvement comprising:

A plurality of emulation objects each executable by said first processor **(Figure 4,**

Col. 7 Lines 39-45 this figure illustrates the different address space layout for the emulated target machine, the “image” of the source machine address space is functionally equivalent to an emulation object **Col. 13 Lines 4-10**, and again in **Figure 23** is

illustrated “code modules” which are functionally equivalent to “emulation objects” Col. 30 Lines 5-16), wherein each of said emulation objects emulates operation of a different one of a plurality of target processors (The Goettelmann et al. reference discloses a plurality (two) different target processors Col. 31 Lines 14-24), wherein each of said plurality of target processors has a software architecture different from said first software architecture (The Goettelmann et al. reference teaches different software architectures Figure 2 Items 2333 & 2334 vs. Items 2335 & 2336 and Figure 3 Item 3336 “TRANSLATED SOURCE MACHINE SYSTEM SOFTWARE” the Translated Application is being translated from one software architecture to another software architecture).

5.2 As regards Independent Claim 21 the Goettelmann et al. reference teaches an Apparatus (Figure 1), a first instruction processor which executes a first sequence of instructions in accordance with a first software architecture (Figure 2 Item 211 is a processor, Figure 11 discloses a section of assembly code “SOURCE MACHINE CODE”), a second sequence of instructions in accordance with a second software architecture which is incompatible with the first software architecture (Figure 11 discloses a section labeled “TRANSLATED CODE”), a plurality of emulation objects wherein a first of said plurality of emulation objects corresponds to said second software architecture (Figure 5 Item 53 is a hardware or software emulator and Col. 31 Lines 14-22 discloses a “plurality” of emulation objects. Figure 11 shows that the “Translated Code” is for the “second software architecture”), a plurality of short sequences of instructions in accordance with said first software architecture located

within said first of said plurality of emulation objects wherein one of said second sequence of instructions corresponds to one of said plurality of short sequences of instructions and a selection facility which selects said one of said plurality of short sequences instructions for presentation to said first instruction processor for execution (Figure 11).

5.3 As regards dependent **Claims 2 and 7** the *Goettelmann et al.* reference teaches compatibility with the first software architecture (**Figure 2 Items 2335 & 2336** disclose the “SOURCE MACHINE APPLICATION”).

5.4 As regards dependent **Claims 3, 9, 10 and 15** the *Goettelmann et al.* reference discloses an “array” the Examiner asserts that a tree structure is functionally equivalent to an “array” (**Figure 20**), and a list of instructions compatible with a second software architecture (**Figure 11 “TRANSLATED CODE” list**).

5.5 As regards dependent **Claim 22** the *Goettelmann et al.* reference teaches short sequences of instructions (**Figure 11 “TRANSLATED CODE”**).

5.6 As regards dependent **Claim 12** the *Goettelmann et al.* reference teaches a plurality of target processors to be emulated (**Col. 31 Lines 14-22**).

5.7 As regards dependent **Claim 23** the *Goettelmann et al.* reference teaches “op-codes” (**Figure 11**).

Allowable Subject Matter

6. Dependent **Claims 4, 5, 8, 13, 14 and 25** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Independent **Claims 1, 6, 11, 16 and 21** and Dependent **Claims 2, 3, 7, 9, 10, 12, 15, 17-20, 22, 23, and 24** are rejected. Dependent **Claims 4, 5, 8, 13, 14 and 25** are objected to.

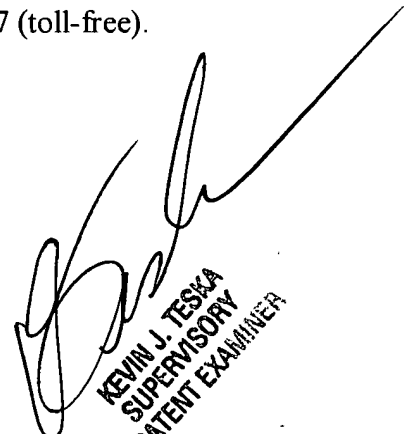
7.1 This action is **NON-FINAL**.

7.2 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwain M Craig whose telephone number is (571) 272-3710. The examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on (571)272-3716. The fax phone number for the organization where this application or proceeding is assigned is 703-308-1936.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DMC



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